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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/802,471	03/16/2004	Izumi Nagai	JP920030027US1	4103

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IBM CORPORATION
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EXAMINER

LIE, ANGELA M

ART UNIT	PAPER NUMBER
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2163

DATE MAILED: 09/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/802,471

Applicant(s)

NAGAI ET AL.

Examiner

Angela M. Lie

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2/3/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 8-10 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. A computer program product is considered an abstract idea and therefore non-statutory because software has to be embedded on a computer readable medium in order to be useful. Claims 8-10 lack any teaching about computer program actually being stored in any memory.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1, 3, 5, 7, 8 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
5. The term "can" in claims 1, 5, 8, 10 and 11 is a relative term which renders the claim indefinite. The term "can" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The term "can" is

considered indefinite because it does not clearly define if the data processor actually processes particular requests or not. The claim scope shall be very clear, and the term "can" does not allow to doubtlessly deduce if some of the essential steps actually take place.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claims 1- 10 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pudipeddi et al (US Publication 20050165820) in the view of Goudie et al (US Publication 20020156764).**

As to claims 1, 5 and 8, Pudipeddi teaches a method and apparatus for processing multiplicity of data requests made by a customer (Figure 4A, elements 406), wherein the method comprising the step of: grouping all of the data requests into a plurality of blocks (Figure 4A, elements 402) for execution by a data processor (paragraph 49), the data requests within each of the blocks and from one of the blocks to a next one of the blocks being arranged in an order that the data requests need to be executed to yield proper data result (paragraph 109), then the data processor processing the data requests within the one block in the order, and then the data processor processing the data requests within the next block in the order (paragraph

109). Pudipeddi does not explicitly teach that the blocks have approximately a same capacity for the data requests, wherein the capacity corresponds to a number of the data requests which the data processor efficiently process in order before processing the data requests in the next one of the blocks. Pudlipeddi also does not teach that data requests correspond to updates. Goudie teaches a method of managing data wherein the plurality of queues use memory size of the same size (paragraph 23). It would have been obvious to one of the ordinary skill in the art during the time the invention was made to use Pudipeddi's requests processing method and system for the update information because selecting particular type of requests to be processed by the processing unit is just an intended use and does not differ from processing any other type of request. Further it would have been also obvious to one of the ordinary skill in the art during the time the invention was made to the queues with the same capacity as taught by Goudie, because predefining the queue's size is a design choice, and further setting all the blocks to the same size is simpler than adjusting the individual size of the particular queue or block.

Note regarding claim 8, Pudipeddi also teaches the first, second and third program instructions being recorded on the medium (paragraph 109, in order to process particular requests out of order, the instructions (technique) need to be stored).

As to claims 2, 6 and 9, Pudipeddi teaches the method wherein the order is an order in which the data update requests were made (paragraph 109).

As to claims 3, 7 and 10, Goudie teaches a method wherein the capacity corresponds to a number of the data requests (paragraph 40), which the data

processing unit optimally processes in order in the one block before processing the data requests in the next one of the blocks (wherein the data request directly corresponds to the physical size of the queue, since each request also has a certain size, so if the queue would have to be emptied, that would be equivalent with optimal processing of the requests).

As to claim 4, Pudipeddi teaches the data requests within each of the blocks are arranged into the order by order information stored within or associated with the blocks (paragraph 109).

As to claim 16, Pudipeddi does not explicitly teach that the blocks have a same predetermined capacity for the data requests. However, it would have been also obvious to one of the ordinary skill in the art during the time the invention was made to the queues with the same capacity as taught by Goudie, because predefining the queue's size is a design choice, and further setting all the blocks to the same size is simpler than adjusting the individual size of the particular queue.

8. **Claims 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pudipeddi et al (US Publication 20050165820) in the view of Goudie et al (US Publication 20020156764) and further in the view of In re Harza, 274 F.2d 669, 671, 124 USPQ 378, 380 (CCPA 1960).**

As to claims 11, Pudipeddi teaches a method and apparatus for processing multiplicity of data requests made by a customer (Figure 4A, elements 406), wherein the method comprising the step of: grouping all of the data requests into a plurality of blocks

(Figure 4A, elements 402) for execution by a data processor (paragraph 49), the data requests within each of the blocks and from one of the blocks to a next one of the blocks being arranged in an order that the data requests need to be executed to yield proper data result (paragraph 109), then the data processor processing the data requests within the one block in the order, and then the data processor processing the data requests within the next block in the order (paragraph 109). Pudipeddi does not explicitly teach that the blocks have approximately a same capacity for the data requests, wherein the capacity corresponds to a number of the data requests which the data processor efficiently process in order before processing the data requests in the next one of the blocks. Pudipeddi also does not teach that data requests correspond to updates. Goudie teaches a method of managing data wherein the plurality of queues use memory size of the same size (paragraph 23). It would have been obvious to one of the ordinary skill in the art during the time the invention was made to use Pudipeddi's requests processing method and system for the update information because selecting particular type of requests to be processed by the processing unit is just an intended use and does not differ from processing any other type of request. Further it would have been also obvious to one of the ordinary skill in the art during the time the invention was made to the queues with the same capacity as taught by Goudie, because predefining the queue's size is a design size, and further setting all the blocks to the same size is simpler than adjusting the individual size of the particular queue. Further neither Pudipeddi , nor Goudie teach duplicating steps, however it would have been obvious to one having ordinary skill in the art at the time the invention was made to duplicate

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request collecting step, since it has been held that mere duplication of the essential working steps involves only routine skill in the art (In re Harza , 124 USPQ 378, 380 (CCPA 1960)).

As to claim 12, Pudipeddi teaches the method wherein the order is an order in which the data update requests were made (paragraph 109). He does not teach however repeating this step, however it would have been obvious to one having ordinary skill in the art at the time the invention was made to have two orders, each corresponding to each individual data request placement as disclosed above.

As to claim 13, Goudie teaches a method wherein the capacity corresponds to a number of the data requests (paragraph 40), which the data processing unit optimally processes in order in the one block before processing the data requests in the next one of the blocks (wherein the data request directly corresponds to the physical size of the queue, since each request also has a certain size, so if the queue would have to be emptied, that would be equivalent with optimal processing of the requests). He does not teach however repeating this step, however it would have been obvious to one having ordinary skill in the art at the time the invention was made to have two multiple capacities for each of the queues.

As to claim 14, Pudipeddi teaches a method wherein the first data processing unit processes the first data requests in parallel with the second data processing unit processing the second data update requests (Abstract and paragraph 109, wherein processing multiple queues simultaneously requires multiple processing units (processors)).

9. **Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over**

Pudipeddi et al (US Publication 20050165820). Pudipeddi teaches a method

comprising the steps of: determining an order in which the data requests were made; grouping the data requests into blocks, wherein each of the blocks includes a plurality of data update requests and information indicating the order to process each of the data update requests; generating and storing information indicating a sequence in which to execute the blocks based on the order; and processing each of the data requests within all of the blocks based in the order. Pudipeddi does not teach that the requests are an update type of request and that all of the requests are processed by a same processor. It would have been obvious to one of the ordinary skill in the time the invention was made to use the queue processing method as taught by Pudipeddi to process update requests because using the method for specific type of request is an intended use and therefore it is would have been obvious to one of the ordinary skill in the art to use the Pudipeddi's queues for any type of requests (for instance: interrupt, write, read, recall, update) depending on the situation. Further as mentioned above Pusipeddi does not explicitly teach that all the requests from the queues can be processed by the same processor, however it would have been obvious to one of the ordinary skill in the art during the time the invention was made to use one processor for processing all the requests (Figure 1, element 120), because if the speed is not a critical factor, parallel processing is not necessary, therefore one processor could be used to process requests in order to save costs (i.e. only one processor required and lower power usage, a simpler computer architecture design).

The Prior Art

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Weber (US Publication 20030191907) discloses a method and apparatus for scheduling requests using ordered stages of scheduling criteria.
- Khare et al (US Publication 20030005167) discloses a method and apparatus for managing transaction requests in a multi-node architecture.

Inquiry

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angela M. Lie whose telephone number is 571-272-8445. The examiner can normally be reached on M-F.

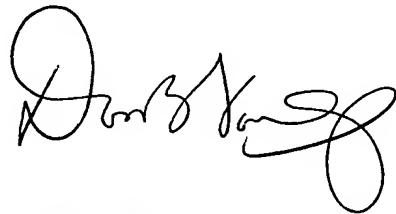
12. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on 571-272-1834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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13. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Angela M Lie



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